

REMARKS

This is a timely reply to the Office Action of March 12, 2002 with a two month extension of time. A telephone interview was conducted between the Applicant's representatives and the Examiner on July 10, 2002, during which proposed amendments to the claims were discussed. The Applicant thanks the Examiner for his Interview Summary, mailed on July 16, 2002, which correctly summarizes the interview. In light of that interview, the above-identified patent application has been amended and reconsideration and reexamination are hereby requested.

Claim Amendments

Claim 43, an independent claim from which most other claims of the application depend, has been amended to clarify the subject matter which the Applicant considers to be the invention and to distinguish the claimed subject matter over the prior art. Specifically, Claim 43 has been amended, in part, to recite "extraction means adapted to withdraw a plurality of thermoformed articles," "said receiving station comprises one or more receiving conveying templates in a template conveyor," and "each receiving hole having an annular collar to define a retention means for holding a thermoformed article disposed in the hole, said annular collar having an interior dimension being smallest in a region furthest from said exterior surface." (underlining indicating modified claim language). Support for the amendment to Claim 43 may be found, *inter alia*, in Figures 19 and 20 of the specification and page 10, lines 19 - 29, of the specification. Therefore, the Applicant submits that this claim amendment adds no new matter to the application.

Claims 5 - 9, 13 - 15, and 23 have been amended to clarify the subject matter which the Applicant considers to be the invention. During the telephone interview, the Examiner remarked that some of the claims appeared to claim the subject matter of the invention redundantly or inconsistently. Therefore, Claims 5 - 9, 13 - 15 and 23 have generally been amended to eliminate any potential redundancies and to ensure consistency with the independent and/or dependent claims from which they depend. The Applicant submits that the claim amendments are

supported by the claims as originally filed, the specification and the drawings. Therefore, the Applicant submits that these claim amendments add no new matter to the application.

Claims Withdrawn From Consideration

In section 2 of the Office Action, the Examiner states that Claims 8, 11 - 13, 15 - 21, 23 and 25 - 30 are withdrawn from consideration as being drawn to a non-elected species. The Applicant agrees that Claims 25 - 30 are drawn to a non-elected species and are properly withdrawn from consideration. However, the Applicant submits that Claims 8, 11 - 13, 15 - 21, and 23 depend either directly or indirectly from Claim 43. Therefore, if Claim 43 is allowed, Claims 8, 11 - 13, 15 - 21 and 23 should be allowed, at least based upon their dependence on an allowable base claim.

Declaration

In section 3 of the Office Action, the Examiner asserts that the oath or declaration presently on file is defective. Enclosed with this response is a new declaration properly claiming priority to PCT International Application No. PCT/EP95/03541 filed on September 1, 1995, which claims priority to Italian patent Application VR94A000082 filed on September 14, 1994.

Rejections Under 35 U.S.C. 103(a)

In section 5 of the office Action, the Examiner rejects Claims 5 - 7, 9 and 43 under 35 U.S.C. 103(a) as being unpatentable over UK Patent Application GB 2,263,660 combined with German Patent No. 3,928,301. Specifically, the Examiner asserts that German '301 teaches a thermoforming apparatus including an extraction head having receiving holes defined by two annular surfaces defining an annular shoulder there between (the receiving hole having an interior dimension which is smallest in a region remote from said exterior surface). The Applicant submits that Claim 43, as amended, is patentable over these references. The Applicant further

submits that Claims 5 - 7 and 9, dependent either directly or indirectly on Claim 43, are also patentable over these references, at least based upon their dependence on Claim 43.

Applicant respectfully submits that German '301 does not teach, disclose, or suggest "said annular collar having an interior dimension being smallest in a region furthest from said exterior surface" as claimed in Claim 43, as amended. Figure 1 of German '301 shows a hole with an interior dimension at the lower surface of plate 6 which is as least as large as the interior dimension of the hole at the upper surface of plate 6. Therefore, the Applicant submits that the combination of GB 2,263,660 with German '301 does not teach, disclose, or suggest each and every element as set forth in Claim 43. Specifically, the Applicant submits that the combination at least does not teach, disclose, or suggest "said annular collar having an interior dimension being smallest in a region furthest from said exterior surface" as claimed in Claim 43, as amended. As noted in the Examiner's Interview Summary, the Examiner appears to have concurred that Claim 43, as amended, defines over WO94/15863, GB '660 and DE '301, noting that a further search is required. Therefore, the Applicant submits that Claim 43, as amended, is patentable over the references which have been cited. The Applicant further submits that Claim 5 - 7 and 9 are also patentable over these references based at least upon their dependence on Claim 43.

In section 6 of the Office Action, the Examiner rejects Claims 10 and 14 under 35 U.S.C. 103(a) as being unpatentable over GB '660 combined with German '301 and further in view of U.S. Patent No. 5,118,277. The Applicant submits that Claims 10 and 14, dependent either directly or indirectly on Claim 43, are patentable over these references, at least based upon their dependence on Claim 43.

In section 7 of the Office Action, the Examiner rejects Claim 45 under 35 U.S.C. 103(a) as being unpatentable over GB '660 combined with German '301 and further in view of U.S. Patent No. 3,966,386. The Applicant submits that Claim 45, dependent directly on Claim 43, is patentable over these references, at least based upon its dependence on Claim 43.

Conclusion

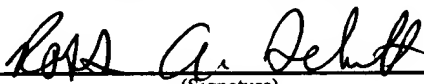
The Applicant submits that Claims 5-7, 9, 10, 14, 43 and 45, as amended, are patentable over the references that have been cited for the reasons set forth above. The Applicant further submits that Claims 8, 11- 13, 15 - 21 and 23, withdrawn from consideration by the Examiner, are also patentable over the cited references at least based upon their dependence on an allowable base claim. Therefore, the Applicant request reconsideration and allowance of the elected claims of the present application.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C., 20231 on

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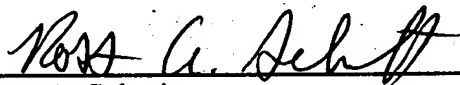
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(Signature)

8-12-2002
(Date)

Encl.: Appendix
Declaration of Padovani

Respectfully submitted,



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MARKED VERSION OF CLAIMS TO SHOW CHANGES MADE

5. (Seven Times Amended) A thermoforming apparatus as claimed in claim 43, [further comprising:] wherein said template conveyor comprises
a chain conveyor [wound by] with a pair of chain wheels and having a run thereof extending along the respective die or counter-die but beyond the encumbrance thereof; and
wherein said extraction pick-up means comprises a plurality of extraction plates carried at predetermined intervals from each other on said conveyor, each extraction plate being fitted with extraction plate receiving holes with equatorial shoulders for retaining the thermoformed articles in proper orientation during their conveyance].
6. (Seven Times Amended) A thermoforming apparatus as claimed in claim 43, [further comprising a template conveyor conveying at least one of said receiving conveying templates,] wherein said template conveyor [extending] extends through at least one work and/or treatment station and [moving] moves stepwise at the opening-closure rate of the dies for receiving thermoformed articles from an extraction plate associated with said extraction pick-up means, said extraction plate withdrawing [a] one or more thermoformed [article] articles from the female die and transferring [it] the one or more thermoformed articles to [said] at least one receiving conveying template of said one or more receiving conveying templates, said template conveyor conveying the thermoformed articles in sequence to said at least one work and/or treatment station along the template conveyor.
7. (Five Times Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor conveys two alternate movable templates of the receiving conveying templates, so that one of said movable templates is moved laterally, in relation to the female die, at said at least one work and/or treatment station, while the other movable template is in front of it to receive a thermoformed article [from the extraction plate].
8. (Six Times Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor is a chain conveyor which comprises a pair of chain wheels around which a respective chain is wound, [a plurality of said] the one or more receiving conveying templates being carried[, spaced] at a predetermined distance spaced from each other[,] on said chain conveyor [and wherein said retention means comprises equatorial shoulders retaining the thermoformed articles in proper orientation during their conveyance].
9. (Four Times Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor further comprises a train of articulated bearing slides or carriages for [a respective] each receiving conveying template moving through said at least one work and/or treatment station.
10. (Five Times Amended) A thermoforming apparatus as claimed in claim 43, wherein said retention means further comprises a truncated conical collar adjacent each receiving hole.

MARKED VERSION OF CLAIMS TO SHOW CHANGES MADE

11. (Three Times Amended) A thermoforming apparatus as claimed in claim 10, wherein said collar is constituted of resiliently deformable material suitable for exercising retentive pressure on the external surface of a thermoformed article.

12. (Four Times Amended) A thermoforming apparatus as claimed in claim 10, wherein said collar comprises a plurality of resiliently loaded ratchets, installed in said collar and movable towards its internal diameter for engaging with the external surface of a thermoformed article in said receiving hole.

13. (Three Times Amended) A thermoforming apparatus as claimed in claim 10, wherein said collar comprises suction orifices which exert on [the] a thermoformed article a suction to hold [it] the thermoformed article in proper orientation[in its respective receiving hole and with its rim abutting against the template].

14. (Six Times Amended) A thermoforming apparatus as claimed in claim 10, wherein the thermoformed articles have rims and wherein [said] at least one receiving conveying template has a peripheral recess formed on the exterior surface of the template about [the] at least one receiving hole for engaging the rim of a thermoformed article received in the at least one receiving hole.

15. (Six Times Amended) A thermoforming apparatus as claimed in claim 6, wherein the thermoformed articles have rims and wherein [said conveying template] at least one receiving hole further comprises [includes] a two-diameter adaptor collar installable in [a receiving seat of an opening in said conveying template] said at least one receiving hole, said adaptor collar [providing said receiving hole in said conveying template and] having an internal diameter delimited by a tapered upper section, an undercut intermediate section, and an annular shoulder downstream of the undercut section, for receiving a thermoformed article and snap-engage its rim at said undercut section.

16. (Three Times Amended) A thermoforming apparatus as claimed in claim 6, wherein the thermoformed articles have rims and wherein said receiving holes have a slightly smaller internal dimension than the external dimension of the thermoformed articles adjacent their rims to be received, so that the thermoformed article is resiliently constrained and properly oriented in the respective receiving hole.

17. (Three Times Amended) A thermoforming apparatus as claimed in claim 6, further including eccentric mechanical arrests, each of which is fitted at a respective receiving hole of a conveying template and is movable between an operating position in which it engages the rim of a flanged thermoformed article and an inoperative releasing position.

18. (Twice Amended) A thermoforming apparatus as claimed in claim 17, wherein said arrests are controlled by a rack operated by a motion source.

19. (Three Times Amended) A thermoforming apparatus as claimed in claim 6, further including air jets for sinking each of the articles into the receiving holes.

MARKED VERSION OF CLAIMS TO SHOW CHANGES MADE

20. (Four Times Amended) A thermoforming apparatus as claimed in claim 6, further including a cup-shaped receiving component for a thermoformed article, the cup-shaped component being disposed adjacent at least one of said receiving holes and having at least one orifice in a bottom of the cup-shaped component.

21. (Three Times Amended) A thermoforming apparatus as claimed in claim 20, further comprising a push rod for expelling the thermoformed article from the cup-shaped component by acting through said at least one orifice in the bottom of the cup-shaped component.

23. (Five Times Amended) A thermoforming apparatus as claimed in claim 6, wherein [said template conveyor includes a plurality of conveying templates and wherein] said retention means further comprises a push-rod which rises from a surface of each receiving conveying template.

25. (Two Times Amended) A thermoforming apparatus comprising at least one female die and counter-die reciprocally approachable and moveable for the operations of closing, thermoforming and opening, a feeder apparatus adapted for feeding thermoforming material between each female die and counter-die, and an extraction pick-up apparatus adapted to withdraw at least one thermoformed article from the female die and to transfer said at least one thermoformed article to a receiving conveying template, the receiving template including retention surfaces adapted to engage each thermoformed article, at least one retention surface of said retention surfaces being defined by at least a portion of a wall of a cavity in an element associated with the receiving conveying template, the cavity communicating with at least one exterior surface of the element and having an interior dimension which is smallest in a region remote from said exterior surface to define a shoulder thereat for resiliently holding a thermoformed article disposed in the cavity.

26. (Amended) The thermoforming apparatus of claim 25 wherein the element is a plate and has two exterior surfaces disposed essentially parallel to each other, the cavity communicating with both exterior surfaces.

27. The thermoforming apparatus of claim 25 wherein the wall of the cavity is defined by two annular inclined surfaces which intersect each other at said shoulder.

28. (Two Times Amended) The thermoforming apparatus of claim 27 wherein the two annular surfaces intersect each other at a plane which is disposed perpendicular to an axis of the cavity.

29. The thermoforming apparatus of claim 28 wherein the thermoformed article has a rim and wherein the shoulder is defined where the two annular surfaces intersect each other, the shoulder having a slightly undercut, internal angle of incidence, in order to

MARKED VERSION OF CLAIMS TO SHOW CHANGES MADE

allow insertion by the thrust of a rimmed thermoformed article and to enable the rimmed thermoformed article to be resiliently constrained and held firmly in position at its rim.

30. The thermoforming apparatus of claim 25 wherein the thermoformed article has a rim and wherein the shoulder has a slightly undercut, internal angle of incidence, in order to allow insertion by the thrust of a rimmed thermoformed article and to enable the rimmed thermoformed article to be resiliently constrained and held firmly in position at its rim.

43. (Three Times Amended) A thermoforming apparatus comprising:
a thermoforming machine fitted with at least one female die; and
extraction pick-up means adapted to withdraw a plurality of thermoformed [article] articles from the female die, said extraction pick-up means including a receiving seat for each thermoformed article to be extracted,
wherein the thermoforming machine is fitted with at least one counter-die, the at least one female die and counter-die being reciprocally approachable and removable for the operations of closing, thermoforming and opening,
the apparatus further comprising a feeder for feeding thermoforming material between each female die and counter-die, and
at least one receiving station adapted to receive one or more thermoformed articles, wherein said receiving station comprises one or more receiving conveying templates in a template conveyor, each receiving conveying template having an exterior surface and one or more receiving holes disposed within said template and communicating with said exterior surface, each receiving hole [adapted to engage a thermoformed article and having an interior dimension which is smallest in a region remote from said exterior surface] having an annular collar to define a retention means for [resiliently] holding a thermoformed article disposed in the hole, said annular collar having an interior dimension being smallest in a region furthest from said exterior surface.

45. (Once Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor comprises a carousel conveyor having at least three arms angularly spaced apart each supporting a respective receiving conveying template.